INDEX TO AUTHORS

ALLFREY, V., DALY, MARIE M., and MIRSKY, A. E. Synthesis of protein in the pancreas. II. The role of ribonucleoprotein in protein synthesis, 157

ALTAMIRANO, MARIO, COATES, CHRISTOPHER W., GRUNDFEST, HARRY, and NACHMANSOHN, DAVID. Mechanisms of bioelectric activity in electric tissue. I. The response to indirect and direct stimulation of electroplaques of *Electrophorus electricus*, 91

ANDERSON, R. CHRISTIAN. See PONDER and PONDER, 411

ARNOLD, WILLIAM, and DAVIDSON, J. B. The identity of the fluorescent and delayed light emission spectra in *Chlorella*, 677

ASHESHOV, IGOR N. See HALL and ASHESHOV, 217

BACHOFER, C. S., and POTTINGER, M. AELRED. The role of high ionic concentrations in protection against x-irradiation, 663

BLUM, HAROLD F., COOK, JOHN S., and LOOS, GORDON M. A comparison of five effects of ultraviolet light on the *Arbacia* egg, 313

— and KAUZMANN, ELIZABETH FLAGLER. Photodynamic hemolysis at low temperatures, 301

—, —, and CHAPMAN, GEORGE B. Ultraviolet light and the mitotic cycle in the sea urchin's egg, 325

BOZLER, EMIL. The role of phosphocreatine and adenosinetriphosphate in muscular contraction, 63

— and PRINCE, J. T. The control of energy release in extracted muscle fibers, 53

BRANDT, C. L. See GIESE, IVERSON, SHEPARD, JACOBSON, and BRANDT, 249

BROWN, PAUL K. See WALD and BROWN, 189

CHAPMAN, GEORGE B. See BLUM, KAUZMANN, and CHAPMAN, 325

COATES, CHRISTOPHER W. See ALTAMIRANO, COATES, GRUNDFEST, and NACHMANSOHN, 91

COOK, JOHN S. See BLUM, COOK, and LOOS, 313

COOK, SHERBURNE F. See SOUTH and COOK, 335

CROCKER, BRUCE F. See PORTER, HOLMES, and CROCKER, 271

DALY, MARIE M. See ALLFREY, DALY, and MIRSKY, 157

DAVIDSON, J. B. See ARNOLD and DAVIDSON, 677

DETHIER, V. G. Olfactory responses of blowflies to aliphatic aldehydes, 743

EINHORN, STANLEY L., HIRSCHBERG, ERICH, and GELLHORN, ALFRED. Effects of cortisone on regenerating rat liver, 559

EISENMAN, GEORGE, and RUDIN, DONALD O. The compound origin of potential in a stimulated dorsal root, 781

— and —. Further studies on the functional properties of spinal axons *in vivo*, 495

—. See RUDIN and EISENMAN, 505, 795

EMMART, E. W., and LONGLEY, J. B. The reactivation of heat-inactivated hyaluronidase, 361

FOSTER, J. W. See PERRY and FOSTER, 401
FOWLER, RICHARD C. See GUILLET and FOWLER, 621
FRAZIER, HOWARD S., SICULAR, ARTHUR, and SOLOMON, A. K. Potassium uptake by the dog erythrocyte, 631
FREYGANG, WALTER. See GRUNDFEST, SHANES, and FREYGANG, 25
—. See SHANES, GRUNDFEST, and FREYGANG, 39

GELLHORN, ALFRED. See EINHORN, HIRSCHBERG, and GELLHORN, 559
GERSTNER, HERBERT B., LEWIS, ROBERT B., and RICHEY, EVERETT O. Early effects of high intensity x-radiation on skeletal muscle, 445
GIESE, ARTHUR C. Some properties of a photodynamic pigment from *Blepharisma*, 259
—, IVERSON, R. M., SHEPARD, D. C., JACOBSON, C., and BRANDT, C. L. Quantum relations in photoreactivation of *Colpidium*, 249
GRAHAM, D. M., and NELSON, F. E. Inhibition of lactic streptococcus bacteriophage by crystal violet and other agents, 121
GRANICK, S. See SAGER and GRANICK, 729
GREENBERG, DAVID M. See MOHAMED and GREENBERG, 433, 441
GRUNDFEST, HARRY, SHANES, ABRAHAM M., and FREYGANG, WALTER. The effect of sodium and potassium ions on the impedance change accompanying the spike in the squid giant axon, 25
—. See ALTAMIRANO, COATES, GRUNDFEST, and NACHMANSOHN, 91
—. See SHANES, GRUNDFEST, and FREYGANG, 39
GUILLET, MARILYN, and FOWLER, RICHARD C. Experimental variations in sonic fragility of red cells, 621
GUTHE, KARL F. The effect of formaldehyde on the oxygen equilibrium of hemoglobin, 775

HALL, ELIZABETH A., and ASHESHOV, IGOR N. A study of the action of phagolessin A58 on the T phages, 217
HAMERMAN, DAVID J., and SCHUBERT, MAXWELL. A quantitative study of metachromasy in synovial fluid and mucin, 291
HAYWARD, HUGH R. See SCOTT and HAYWARD, 601
HERSHEY, A. D. Nucleic acid economy in bacteria infected with bacteriophage T2. II. Phage precursor nucleic acid, 1
HIRSCHBERG, ERICH. See EINHORN, HIRSCHBERG, and GELLHORN, 559
HITCHCOCK, DAVID I. Membrane potentials in the Donnan equilibrium. II, 717
HOLMES, R. See PORTER, HOLMES, and CROCKER, 271
HUBBARD, RUTH. The molecular weight of rhodopsin and the nature of the rhodopsin-digitonin complex, 381
—. The respiration of the isolated rod outer limb of the frog retina, 373

IVERSON, R. M. See GIESE, IVERSON, SHEPARD, JACOBSON, and BRANDT, 249

JACOBSON, C. See GIESE, IVERSON, SHEPARD, JACOBSON, and BRANDT, 249
JAHN, THEODORE L. See RUCK and JAHN, 825

KAUZMANN, ELIZABETH FLAGLER. See BLUM and KAUZMANN, 301
—. See BLUM, KAUZMANN, and CHAPMAN, 325
KIRK, PAUL L. See ROSENBERG and KIRK, 239

KIRK, PAUL L. See ROSENBERG, ZITCER, and KIRK, 231
KRUEGER, A. P. See RALSTON and KRUEGER, 685

LEWIN, JOYCE C. Silicon metabolism in diatoms. I. Evidence for the role of reduced sulfur compounds in silicon utilization, 589
LEWIS, ROBERT B. See GERSTNER, LEWIS, and RICHEY, 445
LONGLEY, J. B. See EMMART and LONGLEY, 361
LOOS, GORDON M. See BLUM, COOK, and LOOS, 313

MAXFIELD, MYLES. Axoplasmic proteins of the squid giant nerve fiber with particular reference to the fibrous protein, 201
MIHÁLYI, ELEMER. Observations on thrombin inactivation by human serum, 139
MILLER, GAIL LORENZ. See WHARTON, MILLER, and WHARTON, 461, 471
MIRSKY, A. E. See ALLFREY, DALY, and MIRSKY, 157
—. See STERN and MIRSKY, 177
MOHAMED, MOSTAFA S., and GREENBERG, DAVID M. Isolation of purified copper protein from horse liver, 433
— and —. Note on new procedure for isolating ferritin from horse liver, 441

NACHMANSOHN, DAVID. See ALTAMIRANO, COATES, GRUNDFEST, and NACHMANSOHN, 91
NELSON, F. E. See GRAHAM and NELSON, 121
NICKERSON, WALTER J. An enzymatic locus participating in cellular division of a yeast, 483

OSTERHOUT, W. J. V. Apparent violations of the all-or-none law in relation to potassium in the protoplasm, 813
OSTERHOUT, W. J. V. Changes in resting potential due to a shift of electrolytes in the cell produced by non-electrolytes, 423

PERRY, JEROME J., and FOSTER, J. W. Non-involvement of lysis during sporulation of *Bacillus mycoides* in distilled water, 401
PONDER, ERIC, and PONDER, RUTH V. The combination between hemolysins and red cells or ghosts, as studied with a radioactive lysin and with new color reactions. With an appendix on the synthesis of sodium dodecyl sulfonate-S^{35} by R. Christian Anderson, 411
PONDER, RUTH V. See PONDER and PONDER, 411
PORTER, C. J., HOLMES, R., and CROCKER, BRUCE F. The mechanism of the synthesis of enzymes. II. Further observations with particular reference to the linear nature of the time course of enzyme formation, 271
POTTINGER, M. AELRED. See BACHOFER and POTTINGER, 663
PRINCE, J. T. See BOZLER and PRINCE, 53

RALSTON, D. J., and KRUEGER, A. P. The isolation of a staphylococcal phage variant susceptible to an unusual host control, 685
RICHEY, EVERETT O. See GERSTNER, LEWIS, and RICHEY, 445
ROSENBERG, JEROME L. Use of a glass electrode for measuring rapid changes in photosynthetic rates, 753
ROSENBERG, SHELDON, and KIRK, PAUL L. Tissue culture studies. Identification of components and synthetic replacements for the active fraction of chick embryo extract ultrafiltrate, 239
—, ZITCER, ELSA, and KIRK, PAUL L. Tissue culture studies. Isolation of the active components in the

ultrafilterable portion of the chick embryo extract, 231
RUCK, PHILIP, and JAHN, THEODORE L. Electrical studies on the compound eye of *Ligia occidentalis* Dana (Crustacea: Isopoda), 825
RUDIN, DONALD O., and EISENMAN, GEORGE. The action potential of spinal axons *in vitro*, 505
— and —. On the role of the spinal afferent neuron as a generator of extracellular current, 795
—. See EISENMAN and RUDIN, 495, 781

SACKTOR, BERTRAM. Investigations on the mitochondria of the housefly, *Musca domestica* L. III. Requirements for oxidative phosphorylation, 343
SAGER, RUTH, and GRANICK, S. Nutritional control of sexuality in *Chlamydomonas reinhardi*, 729
SCHUBERT, MAXWELL. See HAMERMAN and SCHUBERT, 291
SCHWERTZ, F. A. See WOLKEN and SCHWERTZ, 111
SCOTT, GEORGE T., and HAYWARD, HUGH R. Evidence for the presence of separate mechanisms regulating potassium and sodium distribution in *Ulva lactuca*, 601
SHANES, ABRAHAM M., GRUNDFEST, HARRY, and FREYGANG, WALTER. Low level impedance changes following the spike in the squid giant axon before and after treatment with "veratrine" alkaloids, 39
—. See GRUNDFEST, SHANES, and FREYGANG, 25
SHEPARD, D. C. See GIESE, IVERSON, SHEPARD, JACOBSON, and BRANDT, 249
SICULAR, ARTHUR. See FRAZIER, SICULAR, and SOLOMON, 631
SOLOMON, A. K. See FRAZIER, SICULAR, and SOLOMON, 631
—. See STREETEN and SOLOMON, 643
SOUTH, FRANK E., JR., and COOK, SHERBURNE F. Argon, xenon, hydrogen, and the oxygen consumption and glycolysis of mouse tissue slices, 335
STERN, HERBERT, and MIRSKY, A. E. Soluble enzymes of nuclei isolated in sucrose and non-aqueous media. A comparative study, 177
STREETEN, D. H. P., and SOLOMON, A. K. The effect of ACTH and adrenal steroids on K transport in human erythrocytes, 643

TELFER, WILLIAM H. Immunological studies of insect metamorphosis. II. The role of a sex-limited blood protein in egg formation by the *cecropia* silkworm, 539
TOLBERT, N. E., and ZILL, L. P. Photosynthesis by protoplasm extruded from *Chara* and *Nitella*, 575

WALD, GEORGE, and BROWN, PAUL K. The molar extinction of rhodopsin, 189
WATANABE, MARY ISHIMOTO, and WILLIAMS, CARROLL M. Mitochondria in the flight muscles of insects. II. Effects of the medium on the size, form, and organization of isolated sarcosomes, 71
WHARTON, D. R. A., MILLER, GAIL LORENZ, and WHARTON, MARTHA L. The odorous attractant of the American cockroach, *Periplaneta americana* (L.). I. Quantitative aspects of the response to the attractant, 461
WHARTON, D. R. A., MILLER, GAIL LORENZ, and WHARTON, MARTHA L. The odorous attractant of the

American cockroach, *Periplaneta americana* (L.). II. A bioassay method for the attractant, 471
WHARTON, MARTHA L. See WHARTON, MILLER, and WHARTON, 461, 471
WILLIAMS, CARROLL M. See WATANABE and WILLIAMS, 71
WOLKEN, J. J., and SCHWERTZ, F. A. Chlorophyll monolayers in chloroplasts, 111

ZILL, L. P. See TOLBERT and ZILL, 575
ZITCER, ELSA. See ROSENBERG, ZITCER, and KIRK, 231

INDEX TO SUBJECTS

ACID, nucleic, economy, in bacteria infected with bacteriophage T2, 1
ACTH. *See* Adrenocorticotropic hormone.
Adenosinetriphosphate and phosphocreatine, role in muscular contraction, 63
Adrenal steroids and adrenocorticotropic hormone, effect on potassium transport in human erythrocytes, 643
Adrenocorticotropic hormone and adrenal steroids, effect on potassium transport in human erythrocytes, 643
Aldehydes, aliphatic, olfactory responses of blowflies, 743
Aliphatic aldehydes, olfactory responses of blowflies, 743
Alkaloids, veratrine, low level impedance changes following spike in squid giant axon before and after treatment with, 39
American cockroach, *Periplaneta americana* L., odorous attractant, bioassay method, 471
— cockroach, *Periplaneta americana* L., odorous attractant, quantitative aspects of response, 461
Arbacia egg, comparison of five effects of ultraviolet light, 313
Argon, xenon, and hydrogen, effects on oxygen consumption and glycolysis of mouse tissue slices, 335
Attractant, odorous, of American cockroach, *Periplaneta americana* L., bioassay method, 471
—, odorous, of American cockroach, *Periplaneta americana* L., quantitative aspects of response, 461
Axon, giant, squid, before and after treatment with veratrine alkaloids, low level impedance changes following spike, 39
—, giant, squid, effect of sodium and potassium ions on impedance change accompanying spike, 25
Axons, spinal, action potential *in vitro*, 505
—, spinal, functional properties *in vivo*, 495
Axoplasmic proteins of squid giant nerve fiber with reference to fibrous protein, 201

BACILLUS *mycoides*, sporulation in distilled water, non-involvement of lysis, 401
Bacteria infected with bacteriophage T2, nucleic acid economy, 1
Bacteriophage, lactic streptococcus, inhibition by crystal violet and other agents, 121
— T2, nucleic acid economy in bacteria infected with, 1
— variant, staphylococcal, susceptible to unusual host control, isolation, 685
Bacteriophages, T, action of phagolessin A58 on, 217
Bioelectric activity in electric tissue, mechanisms, response to indirect and direct stimulation of electroplaques of *Electrophorus electricus*, 91
Blepharisma, photodynamic pigment, properties, 259
Blood cells, red. *See* Erythrocytes.
— protein, sex-limited, role in egg formation by *cecropia* silkworm, 539

Blowflies, olfactory responses to aliphatic aldehydes, 743

CECROPIA silkworm, role of sex-limited blood protein in egg formation, 539
Cell electrolytes, shift produced by non-electrolytes, changes in resting potential due to, 423
Cells, blood, red. *See* Erythrocytes.
—, extracellular current, role of spinal afferent neuron as generator, 795
Cellular division, yeast, enzymatic locus participating, 483
Chara and *Nitella*, photosynthesis by protoplasm extruded from, 575
Chlamydomonas reinhardi, sexuality, nutritional control, 729
Chlorella, fluorescent and delayed light emission spectra, identity, 677
Chlorophyll monolayers in chloroplasts, 111
Chloroplasts, chlorophyll monolayers in, 111
Cockroach, American, *Periplaneta americana* L., odorous attractant, bioassay method, 471
—, American, *Periplaneta americana* L., odorous attractant, quantitative aspects of response, 461
Color reactions, new, and radioactive lysin, combination between hemolysins and red cells or ghosts studied with, 411
Colpidium, photoreactivation, quantum relations, 249
Copper protein, purified, isolation from horse liver, 433
Cortisone, effects on regenerating rat liver, 559
Crustacea, *Ligia occidentalis* Dana, compound eye, electrical studies, 825
Crystal violet and other agents, inhibition of lactic streptococcus bacteriophage by, 121
Cultivation, tissue, identification of components and synthetic replacements for active fraction of chick embryo extract ultrafiltrate, 239
Cultivation, tissue, isolation of active components in ultrafilterable portion of chick embryo extract, 231
Current, extracellular, role of spinal afferent neuron as generator, 795

DIATOMS, silicon metabolism, evidence for role of reduced sulfur compounds in silicon utilization, 589
Digitonin and rhodopsin, complex, and molecular weight of rhodopsin, 381
Donnan equilibrium, membrane potentials, 717
Dorsal root, stimulated, compound origin of potential, 781

EGG, *Arbacia*, comparison of five effects of ultraviolet light, 313
— formation by *cecropia* silkworm, role of sex-limited blood protein, 539
—, sea urchin's, ultraviolet light and mitotic cycle, 325
Electric tissue, mechanisms of bioelectric activity in, response to indirect and direct stimulation of electroplaques of *Electrophorus electricus*, 91
Electrical studies on compound eye of *Ligia occidentalis* Dana, 825
Electrode, glass, use for measuring rapid changes in photosynthetic rates, 753
Electrolytes in cell, shift produced by non-electrolytes, changes in resting potential due to, 423
Electrophorus electricus, electroplaques, response to indirect and direct stimulation, 91
Electroplaques of *Electrophorus electricus*, response to indirect and direct stimulation, 91

Embryo extract, chick, ultrafilterable portion, isolation of active components, 231
— extract ultrafiltrate, chick, active fraction, identification of components and synthetic replacements, 239
Energy release, control in extracted muscle fibers, 53
Enzymatic locus participating in yeast cellular division, 483
Enzymes, soluble, of nuclei isolated in sucrose and non-aqueous media, comparative study, 177
—, synthesis, mechanism, with reference to linear nature of time course of enzyme formation, 271
Equilibrium, Donnan, membrane potentials, 717
—, oxygen, of hemoglobin, effect of formaldehyde, 775
Erythrocyte, dog, potassium uptake, 631
Erythrocytes or ghosts and hemolysins, combination between studied with radioactive lysin and with new color reactions, 411
—, human, effect of adrenocorticotropic hormone and adrenal steroids on potassium transport in, 643
—, sonic fragility, variations, 621
Extract, chick embryo, ultrafilterable portion, isolation of active components, 231
— ultrafiltrate, chick embryo, active fraction, identification of components and synthetic replacements, 239
Eye, compound, *Ligia occidentalis* Dana, electrical studies, 825

FERRITIN, new procedure for isolation from horse liver, 441
Fiber, nerve, giant, squid, axoplasmic proteins, with reference to fibrous protein, 201
Fibers, muscle, extracted, control of energy release in, 53
Filtrate, ultra-, chick embryo extract, active fraction, identification of components and synthetic replacements, 239
—, ultra-, chick embryo extract, isolation of active components, 231
Flight muscles of insects, mitochondria, effects of medium on size, form, and organization of isolated sarcosomes, 71
Fluid, synovial, and mucin, quantitative study of metachromasy, 291
Fluorescent and delayed light emission spectra in *Chlorella*, identity, 677
Fly, *Musca domestica* L., mitochondria, requirements for oxidative phosphorylation, 343
Formaldehyde, effect on oxygen equilibrium of hemoglobin, 775

GLASS electrode, use for measuring rapid changes in photosynthetic rates, 753
Glycolysis and oxygen consumption of mouse tissue slices, effects of argon, xenon, and hydrogen, 335

HEAT-INACTIVATED hyaluronidase, reactivation, 361
Hemoglobin, oxygen equilibrium, effect of formaldehyde, 775
Hemolysins and red cells or ghosts, combination between studied with radioactive lysin and with new color reactions, 411
Hemolysis, photodynamic, at low temperatures, 301
Hormone, adrenocorticotropic, and adrenal steroids, effect on potassium transport in human erythrocytes, 643
Horse liver, isolation of purified copper protein from, 433
— liver, new procedure for isolation of ferritin from, 441

Hyaluronidase, heat-inactivated, reactivation, 361
Hydrogen, argon, and xenon, effects on oxygen consumption and glycolysis of mouse tissue slices, 335

IMMUNOLOGICAL studies of insect metamorphosis, role of sex-limited blood protein in egg formation by *cecropia* silkworm, 539
Impedance change accompanying spike in squid giant axon, effect of sodium and potassium ions, 25
— changes, low level, following spike in squid giant axon before and after treatment with veratrine alkaloids, 39
Insect metamorphosis, immunological studies, role of sex-limited blood protein in egg formation by *cecropia* silkworm, 539
Insects, flight muscles, mitochondria, effects of medium on size, form, and organization of isolated sarcosomes, 71
Ionic concentrations, high, role in protection against x-irradiation, 663
Ions, sodium and potassium, effect on impedance change accompanying spike in squid giant axon, 25
Isopoda, *Ligia occidentalis* Dana, compound eye, electrical studies, 825

LAW, all-or-none, in relation to potassium in protoplasm, apparent violations, 813
Light emission spectra, fluorescent and delayed, in *Chlorella*, identity, 677
—, ultraviolet, comparison of five effects on *Arbacia* egg, 313
—, ultraviolet, and mitotic cycle in sea urchin's egg, 325
Ligia occidentalis Dana, compound eye, electrical studies, 825
Liver, horse, isolation of purified copper protein from, 433
—, horse, new procedure for isolation of ferritin from, 441
—, rat, regenerating, effects of cortisone, 559
Lysin, radioactive, and new color reactions, combination between hemolysins and red cells or ghosts studied with, 411
Lysis, non-involvement during sporulation of *Bacillus mycoides* in distilled water, 401

MAN, erythrocytes, effect of adrenocorticotropic hormone and adrenal steroids on potassium transport in, 643
—, serum, thrombin inactivation by, 139
Media, non-aqueous, and sucrose, comparative study of soluble enzymes isolated in, 177
Membrane potentials in Donnan equilibrium, 717
Metabolism, silicon, in diatoms, evidence for role of reduced sulfur compounds in silicon utilization, 589
Metachromasy in synovial fluid and mucin, quantitative study, 291
Metamorphosis, insect, immunological studies, role of sex-limited blood protein in egg formation by *cecropia* silkworm, 539
Mitochondria, house fly, *Musca domestica* L., requirements for oxidative phosphorylation, 343
— in flight muscles of insects, effects of medium on size, form, and organization of isolated sarcosomes, 71
Mitotic cycle and ultraviolet light in sea urchin's egg, 325
Molecular weight of rhodopsin and nature of rhodopsin-digitonin complex, 381
Mucin and synovial fluid, quantitative study of metachromasy, 291

Musca domestica L., mitochondria, requirements for oxidative phosphorylation, 343
Muscle fibers, extracted, control of energy release in, 53
—, skeletal, early effects of high intensity x-radiation on, 445
Muscles, flight, of insects, mitochondria, effects of medium on size, form, and organization of isolated sarcosomes, 71
Muscular contraction, role of phosphocreatine and adenosinetriphosphate, 63

NERVE fiber, giant, squid, axoplasmic proteins, with reference to fibrous protein, 201
Neuron, spinal afferent, role as generator of extracellular current, 795
Nitella and *Chara*, photosynthesis by protoplasm extruded from, 575
Nuclei isolated in sucrose and nonaqueous media, soluble enzymes, comparative study, 177
Nucleic acid economy in bacteria infected with bacteriophage T2, 1
Nucleoprotein, ribo-, role in protein synthesis in pancreas, 157
Nutritional control of sexuality in *Chlamydomonas reinhardi*, 729

ODOROUS attractant of American cockroach, *Periplaneta americana* L., bioassay method, 471
— attractant of American cockroach, *Periplaneta americana* L., quantitative aspects of response, 461
Olfactory responses of blowflies to aliphatic aldehydes, 743
Oxidative phosphorylation, requirements of mitochondria of housefly, *Musca domestica* L., 343
Oxygen consumption and glycolysis of mouse tissue slices, effects of argon, xenon, and hydrogen, 335
Oxygen equilibrium of hemoglobin, effect of formaldehyde, 775

PANCREAS, protein synthesis in, role of ribonucleoprotein, 157
Periplaneta americana L., odorous attractant, bioassay method, 471
— *americana* L., odorous attractant, quantitative aspects of response, 461
Phage. *See* Bacteriophage.
Phagolessin A58, action on T bacteriophages, 217
Phosphocreatine and adenosinetriphosphate, role in muscular contraction, 63
Phosphorylation, oxidative, requirements of mitochondria of housefly, *Musca domestica* L., 343
Photodynamic hemolysis at low temperatures, 301
— pigment from *Blepharisma*, properties, 259
Photoreactivation of *Colpidium*, quantum relations, 249
Photosynthesis by protoplasm extruded from *Chara* and *Nitella*, 575
Photosynthetic rates, use of glass electrode for measuring rapid changes, 753
Pigment, photodynamic, from *Blepharisma*, properties, 259
Potassium in protoplasm, apparent violations of all-or-none law in relation to, 813
— and sodium distribution in *Ulva lactuca*, separate mechanisms regulating, 601
— and sodium ions, effect on impedance change accompanying spike in squid giant axon, 25
— transport in human erythrocytes, effect of adrenocorticotropic hormone and adrenal steroids, 643
— uptake by dog erythrocyte, 631

Potential, action, of spinal axons *in vitro*, 505
Potential, compound origin in stimulated dorsal root, 781
—, resting, changes due to shift of electrolytes in cell produced by non-electrolytes, 423
Potentials, membrane, in Donnan equilibrium, 717
Protein, blood, sex-limited, role in egg formation by *cecropia* silkworm, 539
—, copper, purified, isolation from horse liver, 433
—, fibrous, axoplasmic proteins of squid giant nerve fiber with reference to, 201
— synthesis in pancreas, role of ribonucleoprotein, 157
Proteins, axoplasmic, of squid giant nerve fiber, with reference to fibrous protein, 201
Protoplasm, apparent violations of all-or-none law in relation to potassium in, 813
— extruded from *Chara* and *Nitella*, photosynthesis by, 575

QUANTUM relations in photoreactivation of *Colpidium*, 249

RADIOACTIVE lysin and new color reactions, combination between hemolysins and red cells or ghosts studied with, 411
Respiration of isolated rod outer limb of frog retina, 373
Retina, frog, isolated rod outer limb, respiration, 373
Rhodopsin, molar extinction, 189
—, molecular weight, and nature of rhodopsin-digitonin complex, 381
Ribonucleoprotein, role in protein synthesis in pancreas, 157
Rod outer limb, isolated, of frog retina, respiration, 373
Roentgen ray, high intensity, early effects on skeletal muscle, 445
— ray, role of high ionic concentrations in protection against, 663
Root, dorsal, stimulated, compound origin of potential in, 781

SARCOSOMES, isolated, effects of medium on size, form, and organization, 71
Sea urchin's egg, ultraviolet light and mitotic cycle, 325
Serum, human, thrombin inactivation by, 139
Sex-limited blood protein, role in egg formation by *cecropia* silkworm, 539
Sexuality in *Chlamydomonas reinhardi*, nutritional control, 729
Silicon metabolism in diatoms, evidence for role of reduced sulfur compounds in silicon utilization, 589
Silkworm, *cecropia*, role of sex-limited blood protein in egg formation, 539
Skeletal muscle, early effects of high intensity x-radiation on, 445
Sodium dodecyl sulfonate-S^{35} synthesis, 411
— and potassium distribution in *Ulva lactuca*, separate mechanisms regulating, 601
— and potassium ions, effect on impedance change accompanying spike in squid giant axon, 25
Sonic fragility of red cells, variations, 621
Spectra, emission, fluorescent and delayed light, in *Chlorella*, identity, 677
Spinal afferent neuron, role as generator of extracellular current, 795
— axons, action potential *in vitro*, 505

Spinal axons, functional properties *in vivo*, 495
Sporulation of *Bacillus mycoides* in distilled water, non-involvement of lysis, 401
Squid giant axon, before and after treatment with veratrine alkaloids, low level impedance changes following spike in, 39
— giant axon, effect of sodium and potassium ions on impedance change accompanying spike in, 25
— giant nerve fiber, axoplasmic proteins, with reference to fibrous protein, 201
Staphylococcal bacteriophage variant susceptible to unusual host control, isolation, 685
Steroids, adrenal, and adrenocorticotropic hormone, effect on potassium transport in human erythrocytes, 643
Stimulation, indirect and direct, response of electroplaques of *Electrophorus electricus*, 91
Streptococcus, lactic, bacteriophage, inhibition by crystal violet and other agents, 121
Sucrose and non-aqueous media, comparative study of soluble enzymes isolated in, 177
Sulfur compounds, reduced, evidence for role in silicon utilization in diatoms, 589
Sulfur-35, sodium dodecyl sulfonate, synthesis, 411
Synovial fluid and mucin, quantitative study of metachromasy, 291

TEMPERATURES, low, photodynamic hemolysis at, 301
Thrombin inactivation by human serum, 139
Time course of enzyme formation, linear nature, 271
Tissue culture, identification of components and synthetic replacements for active fraction of chick embryo extract ultrafiltrate, 239
Tissue culture, isolation of active components in ultrafilterable portion of chick embryo extract, 231
—, electric, mechanisms of bioelectric activity in, response to indirect and direct stimulation of electroplaques of *Electrophorus electricus*, 91
— slices, mouse, oxygen consumption and glycolysis, effects of argon, xenon, and hydrogen, 335
Triphosphate, adenosine-, and phosphocreatine, role in muscular contraction, 63

ULTRAFILTRATE, chick embryo extract, active fraction, identification of components and synthetic replacements, 239
—, chick embryo extract, isolation of active components, 231
Ultraviolet light, comparison of five effects on *Arbacia* egg, 313
— light and mitotic cycle in sea urchin's egg, 325
Ulva lactuca, separate mechanisms regulating potassium and sodium distribution, 601

VERATRINE alkaloids, low level impedance changes following spike in squid giant axon before and after treatment with, 39

WATER, distilled, non-involvement of lysis during sporulation of *Bacillus mycoides* in, 401
Weight, molecular, of rhodopsin, and nature of rhodopsin-digitonin complex, 381

XENON, argon, and hydrogen, effects on oxygen consumption and glycolysis of mouse tissue slices, 335
X-ray. *See* Roentgen ray.

YEAST, cellular division, enzymatic locus participating in, 483